REMARKS

Status of Claims

Claims 1-33 were pending. Claims 1, 9, 16 and 26 are amended and claim 3 and 4 are cancelled. Reconsideration of the rejection of claims 1-33 are earnestly solicited in view of the amendments and the following remarks.

Claim Objections

Claims 1, 9, 16, and 26 are objected to for minor informalities. The Office Action indicated that claims 1, 9, 16, and 26 lack antecedent basis for "the three-dimensional object." Applicants respectfully disagree. The preamble of claims 1, 9, 16 and 26 expressly recites "a three-dimensional object within a defined volume." Accordingly, the objection to claims 1, 9, 16 and 26 should be withdrawn.

Rejection of claims 1-3, 5-12, 15, 16, 19-26, 29, 31, and 32 under 35 U.S.C. §102(b)

Claims 1-3, 5-12, 15, 16, 19-26, 29, 31 and 32 are rejected under 35 U.S.C. § 102 (b) as being anticipated by Kataoka et al. (U.S. Patent No. 5,270,752).

With respect to independent claims 1, 9, 16 and 26, Kataoka fails to disclose, among other things, "the three-dimensional object is viewable circumferentially."

The Office Action cites Kataoka for disclosing a fog screen formed by fog. The Office Action contends that because fog is made of water particles, which are three-dimensional particles, the particles may be viewed circumferentially. The Office Action has not provided any citation to Kataoka to support the fact that the fog or fog screen is a three-dimensional object that can be viewed circumferentially. Kataoka does mention the

word three-dimensional anywhere in the disclosure. At best, Kataoka, column 1, lines 19-20, discloses a two-dimensional screen.

Assuming arguendo, that the fog screen is the three-dimensional object and that the fog is the projected medium, Kataoka fails to anticipate the claimed invention because the fog screen disclosed by Kataoka is not viewable circumferentially. With reference to Figure 1 in Kataoka, the aspirator and expirator devices block the side views of the fog screen. Accordingly, the fog screen is not viewable circumferentially.

Unlike Kataoka, claimed embodiments of the present invention generate three-dimensional objects that are viewable circumferentially. The projection system is configured to allow the projected three-dimensional objects to be viewed from the sides, front and back simultaneously. Therefore, for at least the foregoing reasons the rejection of claims 1, 9, 16 and 26 should be withdrawn and claims 1, 9, 16 and 26 are allowable over the prior art.

Claims 2, 5-8, 10-12, 15, 19-25, 29, 31, and 32 depend on claims 1, 9, 16 and 26 and further define novel features of the claimed invention. Accordingly, claim 2, 5-12, 15, 19-25, 29, 31, and 32 are allowable by virtue of their dependence on claims 1, 9, 16 and 26.

Moreover, with respect to claims 16 and 26, Kataoka fails to disclose, "communicating imaging data to a projector that disperses a projection medium based on the communicated imaging data."

In Kataoka, the fog that forms the fog screen is not projected based on image data. Instead, Kataoka, column 2, lines 8-10 discloses that the fog screen is formed so that the

image data can be reflected by the fog screen. Kataoka, column 4, lines 5-9, further discloses the reflected image data is viewed by the audience.

The Office Action fails to address the requirement of dispersing the projection medium based on the communicated imaging data. Unlike Kataoka, claimed embodiments of the invention utilize the image data to control the projected medium that forms the three-dimensional object. The quantity of the projected medium that forms the three-dimensional object is varied based on the image data. Thus, the three-dimensional object illustrates objects associated with the image data. Accordingly, for at least the foregoing reasons, the rejection of claims 16 and 26 should be withdrawn and claims 16 and 26 are allowable over the prior art.

Claims 19-25, 29, 31, and 32 depend on claims 16 and 26 and further define novel features of the claimed invention. Accordingly, claim 19-25, 29, 31, and 32 are allowable by virtue of their dependence on claims 16 and 26.

Rejection of claims 1-6, 8-19, and 21-33 under 35 U.S.C. §102(e)

Claims 1-6, 8-19, and 21-33 are rejected under 35 U.S.C. § 102 (e) as being anticipated by Dyner et al. (U.S. Patent No. 6,857,746).

With respect to independent claims 1, 9, 16 and 26, Dyner fails to disclose, among other things, "the three-dimensional object is viewable circumferentially."

The Office Action cites Dyner for disclosing a particle cloud that is formed by a fine mist. The Office Action contends that because mist is made of particles, which are three-dimensional particles, the particles may be viewed circumferentially. The Office

Action has not provided any citation to Dyner that expressly discloses the fact that the mist is a three dimensional object that can be viewed circumferentially.

Dyner, column 6, lines 60-65, discloses image data is directed to a cloud particle to form a free-space image. Dyner, column 9, lines 15-20, explicitly teaches that the floating image is clearly seen in front at zero degrees and not clearly seen at one hundred eighty degrees. Additionally, Dyner, column 9, lines 50-60, further discloses that a multisource projection system may be utilized to simulate a three-dimensional image, where each source produces discrete stereoscopic images at specified angles.

Unlike Dyner, embodiments of the invention utilize the projection medium to form a three-dimensional object that is viewable circumferentially. Because the three-dimensional object is formed by the projected medium, the image may be seen at angles greater than one hundred eighty degrees. The three-dimensional object is contained within a volume created by the projector and the receiving mechanism. Therefore, for at least for the foregoing reasons the rejection of claims 1, 9, 16 and 26 should be withdrawn and claims 1, 9, 16 and 26 are allowable over the prior art.

Claims 2, 5-6, 8, 10-15, 17-19, and 21-25, and 27-33 depend on claims 1, 9, 16 and 26 and further define novel features of the claimed invention. Accordingly, claim 2, 5-6, 8, 10-15, 17-19, and 21-25, 27-33 are allowable by virtue of their dependence on claims 1, 9, 16 and 26.

Moreover, with respect to claims 1, 13, 16-17, 26-28 and 33, Dyner fails to disclose, "communicating imaging data to a projector that disperses a projection medium based on the communicated imaging data."

The Office Action cites FIG. 1, for the sensor and controller. According to Dyner, column 7, lines 25-50, the sensor filters unwanted noise, and captures intentional user interactions, which are transmitted to a controller that that interprets the interactions and updates the image illuminated on the particle cloud. The cited portions do not expressly teach altering the particle cloud based on the image data.

Dyner, column 14, lines 30-45, discloses adjusting the particle cloud based on information presented by environmental sensors, where adjustments are made to reduce particle cloud turbulence. Dyner fails to disclose modifying the particle cloud based on the image data. Instead Dyner, column 6, lines 45-65, discloses that in all instances, the single or multiple source optical elements generates a projection beam that illuminates the particle cloud to provide the free-space image.

Unlike Dyner, claimed embodiments of the invention utilize the image data to control the projected medium that forms the three-dimensional object. The quantity of the projected medium that forms the three-dimensional object is varied based on the image data. Thus, the three-dimensional object illustrates objects associated with the image data. Accordingly, for at least the foregoing reasons, the rejection of claims 4, 13, 16-17, 26-28 and 33 should be withdrawn and claims 4, 13, 16-17, 26-28 and 33, are allowable over the prior art.

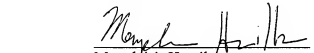
CONCLUSION

As set forth above, applicants respectfully submit that all pending claims are in condition for allowance. Applicants respectfully request that this application be allowed and passed to issue. Should, however, any issues remain prior to issuance of this

application, the Examiner is urged to contact the undersigned to resolve the same. The Commissioner is hereby authorized to charge any additional amount required, or credit any overpayment, to Deposit Account No. 19-2112 referencing Attorney Docket No. MFCP.108794.

Respectfully submitted,

Date: June 13, 2006



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